

REMARKS/ARGUMENTS

Pursuant to the requirement of 37 CFR 1.121(b), and as stated above, please substitute and replace all the claim sheets, as amended and as originally filed, with the above amended set of claims. The following claim rejections and objections were noted from the Office Action dated October 1, 2003, and pursuant to each paragraph, presented in the same order, arguments follow.

A telephonic interview was held between Examiner Jeffrie R. Lund and Ms. Lynn E. Cargill, Applicant's attorney, on Tuesday, January 27, 2004, and the prior art was discussed in terms of the claims. In attendance, at Ms. Cargill's office, was the inventor/applicant, Thomas E. Schmoyer, to answer certain questions about the procedure. The recited gas generator was discussed in particular, and the inclusion of the limitations of some of the dependent claims being put into the independent claim was also discussed.

Election/Restrictions

4. Applicant hereby affirms election of Group I, claims 1-7, 9-13, 15-20 and 42-44. Such election was made by Applicant's attorney via telephone conversation with the Examiner on May 15, 2003. Claims 22-25, 27-34, 36-41 and 45 shall be withdrawn from consideration with a reservation of right to re-file as a divisional prior to the issuance of this patent.

Claim Rejections – 35 USC § 112

7. *Claims 18-20 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

In response to this rejection, amendments have been made to those claims which overcome this rejection.

Claim Rejections – 35 USC § 102

9. Claims 1-7 were rejected under 35 U.S.C. 102(b) as being clearly anticipated by Donald et al., 3,684,554.

In response to this rejection, Applicant has made amendments to the claims, and now includes limitations of using a chemical feedstock which does not include sulfur trioxide. Furthermore, limitations were placed in claims 1, 10 and 18 regarding the inclusion of a necessity for a means for exhausting the sulfonating gas, and further including a means for introducing a neutralizing agent onto the surface of the article being sulfonated. As the Donald et al., reference did not disclose a system which sulfonated from a source of sulfonating gas other than sulfur trioxide, it is believed that the current claims are now allowable over the Donald et al., reference for this reason.

10. Claims 1, 2, 4, 6 and 7 were rejected under 35 U.S.C. 102(b) as being clearly anticipated by Walles et al., 4,915,912.

In response to this rejection, it is noted that the Walles et al., reference discloses a gas generator which uses a chemical feedstock of sulfur trioxide and a dry air supply, unlike the present invention which now, after amendment, utilizes a chemical feedstock of other materials besides sulfur trioxide. It is for these reasons that the rejection to claims 1, 2, 4, 6 and 7 has been overcome.

11. Claims 1-4 and 7 were rejected under 35 U.S.C. 102(b) as being clearly anticipated by Walles et al., 5,030,399.

In response to this rejection, Applicant submits that the sulfur trioxide gas generator of the Walles et al., patent generates sulfur trioxide gas from liquid sulfur trioxide, and therefore does not require the use of a catalytic converter, as is disclosed in the present invention. Furthermore, the Walles et al., reference is for in-mold sulfonation and utilizes the sulfonation step during the manufacture of the article. The present invention is directed towards an apparatus for sulfonating the article after it has been manufactured.

Claim Rejections – 35 USC § 103

13. *Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Walles et al., US Patent 4,915,912, in view of Cameron, US Patent 5,308,587, and Bell et al., US Patent 5,229,077.*

In response to this rejection, Applicant has amended his claims to restrict the type of gas generator from a liquid sulfur trioxide vaporizer to a sulfonating gas generator utilizing a chemical feedstock of elemental sulfur and sulfur dioxide, among others.

Applicant respectfully submits that the Cameron reference is an apparatus and process for a sulfur burning furnace to make sulfuric acid, in an industrial setting. Upon careful review of the Cameron reference it should be noted that the sulfur burning furnace would be inappropriate for utilization in the present application. By combining the Cameron apparatus with the Walles et al., generator, the present invention, as now claimed, does not result, nor is it obvious therefrom. The combination with the Bell et al., reference of the other two references discussed hereinabove still do not yield the same as is presently claimed for the present invention. The combination of the vanadium catalytic converter of Bell et al., with the catalytic converter of Cameron, would not yield a suitable apparatus for manufacture for the production of sulfuric acid. By utilizing such a converter in the present invention, the articles which are to be sulfonated would be coated with sulfuric acid, rendering those articles unusable for applications in automobiles gas

tanks and other assorted fuel tank components. Note the bypass systems called for in Cameron which produce sulfur dioxide, sulfur trioxide and sulfuric acid simultaneously (Column 2, Lines 41-54).

The Bell et al., reference is designed to maintain the concentration of sulfur oxides in a flue duct at a predetermined value, and not for the preparation of sulfonating gas for use to give a multiple Angstrom barrier layer in a plastic article. By combining all three of these references together, a machine would result which would not be suitable for the present invention.

14. *Claims 10, 11, 15-17 and 44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Walles et al., US Patent 4,915,912, in view of Esser et al., US Patent 5,677,010.*

In response to this rejection, claim 10 has been amended, claim 11 has been canceled, claims 15-17 remain as original, and claim 44 remains as previously presented. The amendments to claim 10 are respectfully submitted and render claim 10 as patentably distinct over the cited prior art for the following reasons. The Walles et al., reference discloses a sulfur trioxide vaporizer, and does not include the recitation of a catalytically oxidizing gas generator from a specific chemical feedstock which does not include sulfur trioxide, as is now recited in claim 10. Although the Esser et al., reference discloses a nozzle for use in a fuel tank coating apparatus, Applicant submits that it is not obvious to combine such a nozzle with the catalytically oxidizing gas generator as cited in the claims now as amended.

15. *Claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Walles et al., and Esser et al., as applied to claims 10, 11, 15-17 and 44 above, and further in view of Walles et al., US Patent 5,030,399.*

In response to this rejection, claim 12 has been canceled.

16. Claim 13 was rejected under 35 U.S.C. 103(a) as being unpatentable over Walles et al., and Esser et al., as applied to claims 10, 11, 15-17 and 44 above, and further in view of Cameron, US Patent 5,308,587, and Bell et al., US Patent 5,229,077.

In response to this rejection, claim 13 has been amended to delete the inclusion of sulfur trioxide as a chemical feedstock, which, as discussed hereinabove, renders this claim non-obvious over the Walles et al., reference when it is dependent from allowable claim 10.

17. Claims 18-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Walles et al., US Patent 4,915,912, in view of Esser et al., Donald et al., Cameron, and Bell et al.

In response to this rejection, claims 18-20 have been amended similarly to those hereinabove, in which the recitation of feedstock has been changed to delete the sulfur trioxide as a precursor, and also including a means for exhausting the sulfonating gas, which should render the present claims allowable over the cited prior art.

For the reasons above, Applicant respectfully submits that claims 1, 4-7, 9, 10, 13, 15-20, and 42-44 are now in condition for allowance, and requests that the Examiner give such an allowance.


Applicant wishes to thank the Examiner for his thorough examination, and hopes, that by these Amendments, the subject matter of the present invention is now more clearly stated, such that a closer review of the present invention, in light of the amendments and arguments made here, will give solid support for an allowance. Consequently, Applicant requests reconsideration in the instant Application and withdrawal of all grounds of rejection and objection in view of the amendments and the following discussion.

If the Examiner feels that the prosecution of this Application can be expedited by conversation, he is courteously requested to place a telephone call to Applicant's attorney at the number listed below.

In view of the foregoing, it is believed that the remaining claims now distinguish over the prior art and are allowable. For the reasons discussed above, it is believed that this Application is now in an allowable condition such that it is appropriate to hereby respectfully solicit its allowance.

Respectfully submitted,

THOMAS E. SCHMOYER
CARGILL & ASSOCIATES, P.L.L.C.

A handwritten signature in cursive script, reading "Lynn E. Cargill", written over a horizontal line.

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